


hydrogen peroxide in the presence of a catalyst, which catalyst comprises divalent copper ions.

For convenience purposes, a copy of the Abstract is attached hereto on a separate sheet.

REMARKS

Applicants have undertaken to cancel claims 9 and 10, amend claims 3-8, and add new claims 11-18 in the above-identified application in order to remove improper multiple dependencies and conform to U.S. practice. No new matter has been added. In addition, headings and an abstract have been added to the specification. Accordingly, entry hereof and examination on the merits are respectfully requested.

Respectfully submitted,



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ABSTRACT

The invention relates a process of oxidizing starch wherein a root or tuber starch comprising at least 95 wt.% based on dry substance of the starch amylopectin, or a derivative thereof, is treated with hydrogen peroxide in the presence of a catalyst, which catalyst comprises divalent copper ions. The present invention further relates to an oxidizable starch obtainable by a process comprising treating a starch with hydrogen peroxide in the presence of a catalyst, which catalyst comprises divalent copper ions.

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VERSION OF AMENDMENT WITH MARKINGS
TO SHOW CHANGES MADE

IN THE SPECIFICATION

On page 1, before line 1, please insert the following before the first paragraph:

A¹

BACKGROUND OF THE INVENTION

On page 2, line 29, please insert the following:

A²

SUMMARY OF THE INVENTION

On page 3, before line 1, please insert the following before the first paragraph:

A³

DETAILED DESCRIPTION OF THE INVENTION

IN THE CLAIMS:

Please cancel claims 9 and 10 without prejudice.

Please amend claims 3-8 as follows:

Sub B¹
A⁴

3. (Amended) A process according to ~~any one of the preceding claims~~
claim 1, wherein the catalyst is present in an amount ranging from about 5 ppb to
about 5000 ppb, preferably from 100 ppb to about 1000 pbb, on dry substance of
starch.

Cont
Sub
B1
Cont
A4

4. (Amended) A process according to ~~any one of the preceding claims~~ claim 1, wherein the action of the divalent copper ions is are enhanced by one or more of calcium, vanadium, manganese, iron or tungsten ions.

5. (Amended) A process according to ~~any one of the preceding claims~~ claim 1, wherein the starch is a potato starch or tapioca starch.

6. (Amended) A process according to ~~any one of the preceding claims~~ claim 1, wherein the hydrogen peroxide is used in an amount ranging from 0.01 to 5.0 wt%, preferably from 0.05 to 2.5 wt% on dry substance of starch.

7. (Amended) A process according to ~~any one of the preceding claims~~ claim 1, wherein the derivative of the starch is a cationic, anionic or amphoteric starch.

8. (Amended) An oxidized starch obtainable by a process according to ~~any one of the preceding claims~~ claim 1.

Please add new claims 11-18, as follows:

Sub
B2
A5

11. A binder in paper coatings or surface coatings comprising an oxidized starch according to claim 1.

12. An adhesive comprising an oxidized starch according to claim 1.

13. A warp yarn sizing comprising an oxidized starch according to claim 1.

14. A coating for glass fibers comprising an oxidized starch according to claim 1.
15. An abrasive paper additive comprising an oxidized starch according to claim 1.
16. A food product additive comprising an oxidized starch according to claim 1.
17. A blanket adhesive comprising an oxidized starch according to claim 1.
18. An emulsifying agent for an alkyl succinic anhydride, alkyl ketene dimer or alkyl isocyanate comprising an oxidized starch according to claim 1.

AFTER THE CLAIMS

Please insert, after the claims, on a separate sheet:

ABSTRACT

The invention relates a process of oxidizing starch wherein a root or tuber starch comprising at least 95 wt.% based on dry substance of the starch amylopectin, or a derivative thereof, is treated with hydrogen peroxide in the presence of a catalyst, which catalyst comprises divalent copper ions. The present invention further relates to an oxidizable starch obtainable by a process comprising treating a starch with hydrogen peroxide in the presence of a catalyst, which catalyst comprises divalent copper ions.